

Percentages of forecasts verified, February, 1890.

States.		States.	
Maine.....	81.1	Kentucky.....	85.6
New Hampshire.....	82.0	Ohio.....	82.9
Vermont.....	81.2	West Virginia.....	81.1
Massachusetts.....	79.6	Indiana.....	79.5
Rhode Island.....	84.9	Illinois.....	86.9
Connecticut.....	83.6	Lower Michigan.....	86.9
Eastern New York.....	87.6	Upper Michigan.....	79.6
Western New York.....	87.4	Wisconsin.....	80.6
Eastern Pennsylvania.....	86.2	Minnesota.....	82.2
Western Pennsylvania.....	81.4	Iowa.....	85.1
New Jersey.....	85.4	Kansas.....	81.1
Delaware.....	85.5	Nebraska.....	80.6
Maryland.....	84.7	Missouri.....	79.6
District of Columbia.....	82.7	Colorado.....	79.3
Virginia.....	84.0	North Dakota.....	83.4
North Carolina.....	82.1	South Dakota.....	82.2
South Carolina.....	86.6	Southern California*.....	89.7
Georgia.....	87.0	Northern California*.....	88.9
Eastern Florida.....	89.4	Oregon*.....	77.1
Western Florida.....	89.6	Washington*.....	84.2
Alabama.....	84.5	By elements: Weather.....	85.2
Mississippi.....	87.3	Temperature.....	82.2
Louisiana.....	87.3	Monthly percentage of weather and	
Texas.....	86.3	temperature combined.....	84.0
Arkansas.....	83.3		
Tennessee.....	89.5		

* In determining the monthly percentage of weather and temperature combined, the Pacific coast states are not included. † The forecasts of temperature in districts east of the Rocky Mountains for February, 1890, were made with reference to the maximum temperature alone; that is, a prediction of warmer or cooler indicated that the maximum temperature of the day designated would be higher or lower than the maximum of the previous day. ‡ The monthly percentage of weather and temperature combined is determined by multiplying the percentage of weather by 6, and the percentage of temperature by 4, and dividing their sum by 10.

FORECASTS FOR 48 AND 72 HOURS IN ADVANCE.

Appreciating the great importance that long time predictions possess for the general public the Chief Signal Officer has authorized forecasts for forty-eight and seventy-two hours, covering the second and third days in advance. Such forecasts are optional with the predicting officer, and are only made when clearly in the public interest, and cover, in all cases, considerable areas of country, and are not confined to localities.

Percentages of verifications of forecasts made for second day

in advance. Number of predictions made: weather, 50; temperature, 44. Percentages of verifications: weather, 63.2; temperature, 84.3. Weather and temperature combined, 71.0. For third day in advance. Number of predictions made: weather, 7; temperature, 7. Percentages of verifications: weather, 100.0; temperature, 14.3; weather and temperature combined, 65.7.

CAUTIONARY SIGNALS FOR FEBRUARY, 1890.

Statement showing percentages of justifications of wind signals for the month of February, 1890:

Wind signals.—(Ordered by Lieutenant W. A. Glassford.) Total number of signals ordered, one hundred and ten; justified as to velocity, wholly, seventy-six, partly, seven; justified as to direction, one hundred and seven. Of the signals ordered, sixty-three were cautionary, of which forty were wholly, and three were partly justified, and forty-seven were storm signals, of which thirty-six were wholly, and four partly justified. Twenty-eight signals were ordered for easterly winds, of which twenty-seven were justified, and eighty-two were ordered for westerly winds, of which eighty were justified. Percentage of justifications, 75.5.

Cold-wave signals.—(Ordered by Assistant Professor T. Russell.) Total number of signals ordered, four hundred and twelve; justified, two hundred and twenty-three. Percentage of justifications, 54.1.

Percentages of local verifications of weather and temperature signals reported by directors of the various State Weather Services for February, 1890.

States.	Weather.	Temperature.	States.	Weather.	Temperature.
Illinois.....	74.4	80.3	Nebraska.....	87.7	88.3
Indiana.....	84.0	82.0	New Jersey.....	82.0	86.2
Kansas.....	83.1	82.4	Ohio.....	79.0	82.0
Michigan.....	83.6	76.2	Oregon.....	80.0	85.0
Minnesota.....	72.0	78.0	Pennsylvania.....	79.0	78.0
Missouri.....	77.0	79.0	South Carolina.....	88.9	87.0

STATE WEATHER SERVICES.

[Temperature in degrees Fahrenheit; precipitation, including melted snow, in inches and hundredths.]

The following extracts and summaries are republished from reports for February, 1890, of the directors of the various state weather services:

ALABAMA.

Temperature.—The average temperature was 10 above the normal. Highest monthly mean, 61.4, at Mobile; lowest monthly mean, 47.9, at Guntersville; maximum, 84, at Butler, 26th and 27th; minimum, 24, at Double Springs, 9th; greatest local monthly range, 64, at Butler, Fayette, and Tusculum; least local monthly range, 21, at Guntersville.

Precipitation.—The average precipitation for the state was 2.14 above the normal; greatest monthly, 12.10, at Fayette; least monthly, 2.06, at Bermuda.

Wind.—Prevailing direction, south.—P. H. Mell, Signal Corps, Auburn, director.

ARKANSAS.

Temperature.—The mean temperature was 6.9 above that of the same month last year; highest monthly mean, 67.0, at Texarkana; lowest monthly mean, 44.3, at Lead Hill; maximum, 81, at Lead Hill, 24th; minimum, —4, at Winslow, 28th; greatest local monthly range, 76, at Lead Hill, Pine Bluff, and Winslow; least local monthly range, 50, at Little Rock.

Precipitation.—The average precipitation for the state was 4.36 above the average of last year. Greatest monthly, 11.08, at Conway; least monthly, 4.96, at Dallas.—M. F. Locke, Commissioner of Agriculture, Little Rock, director; W. U. Simons, Sergeant, Signal Corps, assistant.

COLORADO.

Temperature.—The monthly mean was 3 above the average for the last three years. Highest monthly mean, 88.0, at Durango; lowest monthly mean, 18.0, at Climax; maximum, 80, at Lamar and Las Animas, 4th; minimum, —27, at Breckenridge, 28th; greatest local monthly range, 100, at Breckenridge; least local monthly range, 49, at Rifle Falls.

Precipitation.—The average for the state was somewhat in excess of the average of the last three years; greatest monthly, 4.40, at Aspen; least monthly, 0.03, at Wigwam and Fort Morgan.

Wind.—Prevailing direction, west.—Prof. F. H. Loud, Colorado Springs, director; W. S. Miller, Corporal, Signal Corps, assistant.

ILLINOIS.

Temperature.—The mean for the month was 5.9 above the normal of the past fifteen years; highest monthly mean, 44.0, at Golconda; lowest monthly mean, 29.5, at Sycamore; maximum, 78, at Jordan's Grove, 17th; minimum, zero, at Riley and Quincy, 21st and 28th; greatest local monthly range, 70, at Collinsville, Jordan's Grove, and White Hall.

Precipitation.—The average for the month was 0.48 below the normal of the past twelve years; greatest monthly, 7.47, at Golconda; least monthly, 1.00, at Gibson City.

Wind.—Prevailing direction, northwest.—John Craig, Sergeant, Signal Corps, Springfield, in charge.

INDIANA.

Temperature.—Like the preceding months of this winter, February was warm throughout; highest monthly mean, 45.3, at Marengo; lowest monthly mean, 33.5, at Angola; maximum, 78, at Huntingburgh, 4th; minimum, 6, at La Fayette, 9th; greatest local monthly range, 60, at La Fayette; least local monthly range, 49, at Richmond and Angola.

Precipitation.—The average for the state was 1.65 in excess of the normal; greatest monthly, 12.12, at Huntingburgh; least monthly, 1.40, at Marion.

Wind.—Prevailing directions, southwest and northwest.—Prof. H. A. Huston, La Fayette, director; C. F. R. Wappenhans, Sergeant, Signal Corps, assistant.

KANSAS.

Temperature.—The temperature was generally above the normal, the excess for the state being 2.2; highest monthly mean, 39.2, at Oswego; lowest monthly mean, 23.9, at Allison; maximum, 89, at Richfield, 4th; minimum, —14, at Scott City, 27th; greatest local monthly range, 99, at Scott City; least local monthly range, 62, at Morse; greatest daily range, 49, at Weskan, 4th; least daily range, 3, at Leavenworth, 27th.

Precipitation.—The average for the state was 0.64 below the normal, the deficiency being general throughout the state, the average not being reached

anywhere; greatest monthly, 1.00, at Oswego and Manhattan; least monthly, 0.12, at Richfield.

Wind.—Prevailing direction, north.—*Prof. J. T. Lovewell, Topeka, director; T. R. Jennings, Sergeant, Signal Corps, assistant.*

KENTUCKY.

Temperature.—The average for the state was 8 above the normal for February; maximum, 86, at Princeton, 11th; minimum, 16, at Ashland, 9th; greatest monthly range, 68, at Princeton; least monthly range, 45, at Millersburgh.

Precipitation.—The average for the state was 8.50 in excess of the normal; greatest monthly, 12.50, at Bowling Green; least monthly, 2.47, at South Fork. Snow storms were quite general on the 22d and 23d.

Wind.—Prevailing direction, south.—*Dr. E. A. Grant, Louisville, director, Frank Burke, Sergeant, Signal Corps, assistant.*

LOUISIANA.

Temperature.—The average for the month was 8 above the normal; highest monthly mean, 66.8, at Port Eads; lowest monthly mean, 55.6, at Coushatta; maximum, 101, at Cameron, 25th; minimum, 20, at Farmerville and Lake Charles, 28th; greatest local monthly range, 70, at Cameron; least local monthly range, 31, at Jonesville.

Precipitation.—There was a general deficiency throughout the state; greatest monthly, 8.69, at Vidalia; least monthly, 1.82, at Mandeville.

Wind.—Prevailing direction, south.—*R. E. Kerkam, Sergeant, Signal Corps, New Orleans, in charge.*

MICHIGAN.

The features of the month were the continued high temperature, the light rainfall, and an almost total absence of snow in the southern half of the state.

Temperature.—The mean was 5.9 above the normal of fifteen years; highest monthly mean, 37.5, at Benton Harbor; lowest monthly mean, 18.3, at Atlantic; maximum, 66, at Benton Harbor, 4th; minimum, —11, at Sault de Ste. Marie, 19th; greatest local monthly range, 60, at Mottville; least local monthly range, 33, at Atlantic; greatest daily range, 36, at Alma, Ann Arbor, Marshall, and Olivet, 4th; least daily range, 1, at Ionia, 28th.

Precipitation.—The average was 0.82 below the average of fifteen years; greatest monthly, 5.17, at Marquette; least monthly, 0.77, at Flint.

Wind.—Prevailing directions, southwest and northwest.—*N. B. Conger, Sergeant, Signal Corps, Lansing, director.*

MINNESOTA.

Temperature.—The mean was about normal in the central counties, from 3 to 4 above the normal in the southern portion of the state, while in the extreme northwest there was a deficiency of 6 to 7; highest monthly mean, 23.8, at La Crosse, Wis.; lowest monthly mean, —8.7, at Saint Vincent; maximum, 53, at La Crosse, Wis., 4th; minimum, —36, at Saint Vincent, 26th, and at Pokegama Falls, 28th; greatest local monthly range, 78, at Pokegama Falls; least local monthly range, 58, at Farmington, and at La Crosse, Wis.; greatest daily range, 49, at Saint Vincent, 1st; least daily range, 4, at La Crosse, Wis., 17th.

Precipitation.—The precipitation reported from Saint Vincent was 50 per cent. in excess; all other stations having a record covering a long period of years report deficiencies; greatest monthly, 1.28, at Minneapolis; least monthly, 0.02, at Morris.

Wind.—Prevailing direction, northwest.—*John Healy, Private, Signal Corps, Saint Paul, in charge.*

MISSISSIPPI.

Temperature.—The mean was 7.4 above the normal; highest monthly mean, 66.6, at Macon; lowest monthly mean, 50.2, at Batesville; maximum, 87, at Vaiden, 3d; minimum, 22, at Booneville, 21st.

Precipitation.—The average was 2.11 above the normal for the month; greatest monthly, 12.11, at Rienzi; least monthly, 2.15, at Moss Point.

Wind.—Prevailing directions, south in the southern part of the state, and north in the northern.—*R. B. Fulton, Signal Corps, University, director.*

METEOROLOGICAL REPORT OF THE MISSOURI STATE BOARD OF AGRICULTURE.

Temperature.—Highest monthly mean, 44.6, at Cairo, Ill.; lowest monthly mean, 28.8, at Craig; maximum, 81, at Protom, 24th; minimum, —8, at Conception, 28th; greatest local monthly range, 78, at Springfield; least local monthly range, 57, at Cairo, Ill.

Precipitation.—Greatest monthly, 7.57, at Cairo, Ill.; least monthly, 0.32, at Hannibal.

Wind.—Prevailing direction, northwest.—*Levi Chubbuck, Secretary of State Board of Agriculture, Columbia, director; A. L. McRae, Sergeant, Signal Corps, assistant.*

NEBRASKA.

The month was generally warm, with little rain or snow.

Temperature.—The mean for southeastern Nebraska was about three degrees above the normal; the maximum, 74, occurred in the southern part of the state, and the minimum, —27, in the northern part; these extremes were higher and lower than our records show for any preceding February.

Precipitation.—Only one station, Valentine, reports over an inch of precipitation; a strip extending through the northern and northeastern parts of the state had over half an inch, while along the southern border there was generally but a trace.

Wind.—Prevailing direction, northwest.—*Prof. Goodwin D. Swezey, Crete, director; G. A. Loveland, Sergeant, Signal Corps, assistant.*

NEVADA.

February has been exceptionally cold and stormy throughout the state.

Temperature.—The mean temperature was 8.8 below the normal; maximum, 88.2, at El Dorado Canyon, 5th; minimum, —41, at Elko, 27th; highest monthly mean, 55.8, at El Dorado Canyon; lowest monthly mean, 20.2, at Ruby Hill; greatest local monthly range, 99, at Elko; least local monthly range, 47.5, at Palmetto; greatest mean daily range, 32.3, at Elko; least mean daily range, 15.8, at Palisade.

Precipitation.—The average was 0.66 above the normal; greatest monthly, 4.80, at Ruby Hill; least monthly, trace, at Gold Mountain.

Wind.—Prevailing direction, south.—*Prof. Chas. W. Friend, Carson City, director; H. E. Wilkinson, Corporal, Signal Corps, assistant.*

NEW ENGLAND METEOROLOGICAL SOCIETY.

The abnormal warmth of the winter season continued through this month, when the departure from the normal temperature was +5.2, which was almost as great as in January, +5.4, and in December, +6.3. The precipitation was close to the normal, but the snowfall was deficient.

Temperature.—Highest monthly mean, 37, at Block Island; lowest monthly mean, 18.8, at Kent's Hill; maximum, 70, at Olneyville, 5th; minimum, —20, at West Milan, 23d; greatest local monthly range, 74, at West Milan; least local monthly range, 43, at Nantucket; greatest daily range, 52, at Stratford, 11th; least daily range, 0, at Lunenburg and Weathersfield Centre, 28th.

Precipitation.—Greatest monthly, 6.13, at Jacksonville; least monthly, 1.50, at Block Island.

Wind.—Prevailing direction, northwest.—*Prof. William H. Niles, Boston, Mass., president; Prof. Winslow Upton, Providence, R. I., secretary; L. G. Schultz, Sergeant, Signal Corps, assistant.*

NEW JERSEY.

Temperature.—The mean was 8.4 above the normal; highest monthly mean, 44.1, at Cape May C. H.; lowest monthly mean, 36, at Tenafly; maximum, 76, at Beverly, 18th; minimum, 14, at Gillette and Junction, 14th and 21st, respectively; greatest local monthly range, 57, at Beverly; least local monthly range, 44, at Billingsport, Ocean City, and Tenafly; greatest daily range, 40, at New York City, 7th; least daily range, 0.2, at Readington, Union, Billingsport and Newark, on the 1st, 4th, 6th, and 28th, respectively.

Precipitation.—The average was 0.79 above the normal; greatest, 5.32, at South Orange; least, 2.43, at Atlantic City.

Wind.—Prevailing directions, northwest and southwest.—*E. W. McGann, Sergeant, Signal Corps, New Brunswick, in charge.*

NEW YORK.

Temperature.—The temperature was above the normal throughout the state excepting at Plattsburgh and Madison Barracks, where it was below; maximum, 70, at South Kortright, 26th; minimum, —16, at Number Four, 22d; greatest local monthly range, 68, at South Kortright, Sacketts Harbor, and Madison Barracks; least local monthly range, 48, at Fort Niagara.

Precipitation.—The rainfall was generally above the average, excepting at Albany, Alfred Centre, Palermo, Setauket, and White Plains, where deficiencies are reported.

Wind.—Prevailing direction, northwest.—*Prof. E. A. Fuytes, Ithaca, director; I. W. Brewer, Private, Signal Corps, assistant.*

NORTH CAROLINA.

Temperature.—The mean was 7 above the normal; highest monthly mean, 58.4, at Wilmington; lowest monthly mean, 43.0, at Highlands; maximum, 82, at Washington, 25th; minimum, 11, at Highlands, 10th; greatest local monthly range, 57, at Marion, Va., Highlands, and Douglas; least local monthly range, 34, at Hatteras.

Precipitation.—The average was 0.25 below the normal. The rainfall was considerably in excess in the western portion of the state, and deficient in the central and eastern portions; greatest monthly, 9.23, at Highlands; least monthly, 1.58, at Weldon.

Wind.—Prevailing direction, southwest.—*Dr. Herbert B. Battle, Raleigh, director; C. F. von Herrmann, Sergeant, Signal Corps, assistant.*

NORTH AND SOUTH DAKOTA.

Temperature.—The mean temperature was 3 below the normal; highest monthly mean, 22.5, at Rapid City, S. Dak.; lowest monthly mean, —1.1, at Gallatin, N. Dak.; maximum, 66, at Rapid City, S. Dak., 12th; minimum, —43, at Fort Buford, N. Dak., 26th; greatest local monthly range, 93, at Rapid City, S. Dak.; least local monthly range, 70, at Alexandria, S. Dak.

Precipitation.—The mean was about 0.26 below the normal; greatest monthly, 0.75, at Spearfish, S. Dak.; least monthly, trace, at Clark, S. Dak.

Wind.—Prevailing direction, northwest.—*S. W. Glenn, Sergeant, Signal Corps, Huron, in charge.*

OHIO.

Temperature.—This was the warmest February on record in the bureau. The mean temperature was 9.2 above the eight-year average, and 4.5 above the mean of 1887, the highest previously recorded; maximum, 78, at Hanging Rock, 4th; minimum, 5, at Wauseon, 9th. This is the only February since the opening of the bureau in 1882 that minimum temperature below zero has not been reported. Greatest daily range, 46, at Logan, 17th; least daily range, 2, at Cleveland, 9th.

Precipitation.—The mean was 1.43 above the average for February; greatest monthly, 7.22, at Hanging Rock; least monthly, 2.90, at Toledo.

Wind.—Prevailing direction, southwest.—*Prof. B. F. Thomas, Columbus, director; Lieut. Charles E. Kilbourne, secretary; C. M. Strong, Corporal, Signal Corps, assistant.*

OREGON.

The month was marked by extremely low temperature in the latter part, excessive precipitation in the first part, and floods in the Willamette, Umpqua, and Rogue rivers during the first eight days.

Temperature.—The mean was 2.7 below the normal; maximum, 67, at Toledo; minimum, —30, at Silver Lake.

Precipitation.—The average was 3.00 above the normal; greatest monthly, 23.68, at Ellensburg; least monthly, 1.38, at Heppner. Snow fell in all sections of the state, from trace in the central portion of Willamette Valley to 28 inches at Joseph.

Wind.—Prevailing direction, southwest.—*Hon. H. E. Hayes, Master State Grange, Oswego, director; B. S. Pague, Sergeant, Signal Corps, assistant.*

PENNSYLVANIA.

Temperature.—The mean was about 8 above the normal, and 14 above that of the corresponding month of 1889; highest monthly mean, 42.1, at Uniontown; lowest monthly mean, 30.2, at Dyberry; maximum, 79, at New Bloomfield, 26th; minimum, zero, at Dyberry, 23d; greatest daily range, 42, at Dyberry and Honesdale, 23d; least daily range, 2, at Le Roy, 19th, Rimersburg, 15th, Annville, 4th, and Columbus, 12th.

Precipitation.—The average was nearly normal, and its distribution was even throughout the state.

Wind.—Prevailing direction, west.—*Under direction of the Franklin Institute, Philadelphia; T. F. Townsend, Sergeant, Signal Corps, assistant.*

SOUTH CAROLINA.

Temperature.—Highest monthly mean, 61.4, at Hardeeville; lowest monthly mean, 52.2, at Spartanburgh; maximum, 83, at Hardeeville, 25th and 26th; minimum, 21, at Spartanburgh, 21st; greatest local monthly range, 35, at Port Royal.

Precipitation.—The rainfall was a little less than the normal; greatest monthly, 6.03, at Walhalla; least monthly, 0.85, at Conway.

Wind.—Prevailing direction, southwest.—*Hon. A. P. Butler, Columbia, director; J. W. Cronk, Private, Signal Corps, assistant.*

TENNESSEE.

The month was characterized by many abnormal meteorological features, the principal of which were the high winds, the great amount of precipitation, and the high temperature.

Temperature.—The mean was 7.5 above the normal, and it is the highest mean during the past seven years; highest monthly mean, 52, at Chattanooga; lowest monthly mean, 47, at Riddleton, Rugby, and Trenton; maximum, 79, at Memphis, 24th; minimum, 18, at Hohenwald, 9th; greatest local monthly range, 60, at Hohenwald; least local monthly range, 42, at Rogersville; greatest daily range, 38, at Springdale, Hohenwald, and Riddleton, 11th, 16th, and 28th, respectively; least daily range, 3, at Memphis, 6th and 8th, Greenville and Florence Station, 6th, Fayetteville, 7th, and Lawrenceburg, 8th.

Precipitation.—The precipitation was nearly 4.00 in excess of the normal of the past seven years, and it was the greatest February average in that time; greatest monthly, 15.75, at Lawrenceburg; least monthly, 6.40, at Cog Hill.

Wind.—Prevailing directions, south and southwest.—*J. D. Plunket, M. D., Nashville, director; H. C. Bate, Signal Corps, assistant.*

TEXAS.

Temperature.—The month was warm from the 1st to the 27th, and the mean temperature was considerably in excess of the normal; highest monthly mean, 64.0, at Corpus Christi; lowest monthly mean, 39.3, at Panhandle; maximum, 89, at Brownsville, 27th; minimum, —2, at Panhandle, 28th; greatest local monthly range, 79, at Panhandle; least local monthly range, 36, at Houston.

Precipitation.—The precipitation was nearly normal, except east of the ninety-seventh meridian, where it was from 2.00 to 5.00 in excess; greatest monthly, 12.85, at Longview; least monthly, 0.02, at El Paso.—*D. D. Bryan, Galveston, director; I. M. Cline, Sergeant, Signal Corps, assistant.*

Meteorological record of Army post surgeons, voluntary, and other co-operating observers, February, 1890.

Stations.	Temperature. (Fahrenheit.)				Precip. in.	Stations.	Temperature. (Fahrenheit.)				Precip. in.
	Max.	Min.	Mean.				Max.	Min.	Mean.		
<i>Alabama.</i>	0	0	0			<i>Arizona—Cont'd.</i>	0	0	0		
Bermuda *†	81	31	59.7	1.21		Ash Springs	60	33	47.8	0.53	
Citronelle	83	33	64.0	4.28		Banghart's	69	18	42.6	1.00	
Columbiana †	79	28	56.5	9.44		Benson *	75	27	48.5	0.00	
Decatur (1) †				9.42		Bisbee				0.20	
Decatur (2) †				8.54		Casa Grande	84	40	56.1	0.61	
Double Springs *	77	24	55.3	11.42		Cooley's Springs †				2.79	
Evergreen †				5.11		Dragoon				0.43	
Livingston (1) †	81	31	57.7	6.72		Eagle Pass		22	38.8	0.51	
Mt. Vernon B'ks.	82	31	61.0	4.35		Fort Apache	80	11	41.2	1.92	
Pine Apple				1.49		Fort Bowie	72	21	49.4	0.22	
Valley Head †	76	24	50.8	11.61		Fort Huachuca	64	21	43.8	0.10	
Wiggins	83	33	61.2	7.97		Fort Grant	74	22	48.4	0.46	
<i>Alaska.</i>						Fort Lowell	87	21	52.4	0.55	
Juneau	38	— 2	22.4	6.55		Fort McDowell	89	25	54.2	1.33	
<i>Arizona.</i>						Fort Mojave	80	30	52.8	1.10	
Ash Creek				0.28		Gila Bend	66	34	55.9	0.40	

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.)				Precip. in.	Stations.	Temperature. (Fahrenheit.)				Precip. in.
	Max.	Min.	Mean.				Max.	Min.	Mean.		
<i>Arizona—Cont'd.</i>	0	0	0			<i>California—Cont'd.</i>	0	0	0		
Holbrook	74	29	41.0	0.25		Glen Ellen	75	24	47.4	7.49	
Lochiel *	74	29	46.0	0.43		Goshen	70	28	49.9	1.13	
Maricopa *	83	34	58.6	0.22		Grass Valley	63	32	45.0	8.27	
Natural Bridge				3.50		Haywards *	63	32	45.0	3.99	
Pantano *	78	32	50.7	0.75		Hollister *	85	30	55.6	2.15	
Sachse's Ranch				0.00		Hornbrook *	58	10	36.6	9.91	
San Carlos	88	18	51.0	1.40		Hydesville †	63	24	43.4	0.13	
San Simon	96	30	55.0	T.		Indio *	98	30	60.8	0.66	
Show Low				3.10		Isone *	60	24	44.1	3.75	
Signal †	79	27	51.4	1.31		Iowa Hill *	67	22	40.8	10.74	
Teviston				T.		Jolon				4.59	
Texas Hill *	89	22	47.8	0.40		Keene *	65	28	42.6	1.97	
Tip Top †				6.06		Kingsburgh *	62	30	43.2	1.43	
Tucson (1) †	79	26	51.9	0.76		King City *	70	22	44.8	3.01	
Tucson (2) *	63	43	51.6	0.10		Knight's Landing *	66	36	52.9	4.18	
Volunteer Springs	75	—27	20.7	2.20		La Grange *	70	20	45.9	3.77	
Walnut Grove				4.50		Lathrop *	70	32	50.7	2.15	
Walnut Ranch				0.08		Laurel *	70	31	47.9	9.10	
Wilcox *	82	25	51.8	.....		Lewis Creek	68	33	47.0	1.09	
Willow Springs				1.74		Livingston *	65	28	46.8	1.61	
Yuma *	90	42	57.3	0.86		Long Beach	88	38	55.0	.....
<i>Arkansas.</i>						Loomis				4.91	
Arkansas City †				5.58		Los Angeles *	82	35	53.4	1.49	
Camden †	78	24	54.0	6.54		Los Banos (1) *	68	30	48.0	1.03	
Conway	78	20	50.4	11.08		Los Banos (2) *	68	35	46.5	1.46	
Dallas	79	8	.....	4.95		Los Gatos (2) *				7.83	
Dardanelle				10.23		Mammoth Tank *	84	41	59.0	0.54	
Forrest City †	76	26	54.3	7.09		Martinez	59	28	45.7	6.00	
Fultont				5.75		Marysville	62	39	47.2	4.65	
Harrisburgh	74	20	47.4	8.47		Mendocino				6.98	
Helena (1) †				9.30		Menlo Park *	65	30	47.8	3.27	
Hot Springs	78	26	53.2	5.91		Merced *	72	32	49.9	1.50	
Lead Hill	81	5	44.3	5.32		Modesto *	66	25	44.1	1.03	
Little Rock B'ks.	79	20	52.4	6.42		Mojave *	72	23	45.4	0.58	
Lonoke	77	22	53.8	6.20		Montague *	58	24	38.5	6.05	
Monticello	76	20	51.0	5.10		Monterey *	60	32	47.9	2.67	
Newport (1) †				12.59		Monterey (Hotel del Monte)	68	28	48.7	.....
Oceola	79	28	49.2	7.73		Mount Hamilton	61	18	36.8	6.60	
Ozone †	70	7	44.7	7.40		Napa *	65	25	49.7	6.59	
Pine Bluff †	80	24	53.5	8.15		National City †	79	35	54.1	2.73	
Stuttgart †	79	21	51.0	7.37		Newark *	68	34	50.6	3.34	
Texarkana †	80	10	57.0	5.82		Newhall	83	28	50.7	4.41	
Washington †	78	19	51.3	6.09		Newman *	68	34	48.1	3.25	
Winslow †	72	— 4	45.1	5.01		Niles *	74	32	52.7	3.42	
<i>California.</i>						Norwalk *	82	36	53.1	1.08	
Alcade *	68	33	48.6	5.93		Oakland (1) *	63	30	47.7	5.72	
Alcatraz Island	62	36	47.6	4.42		Oakland (2) *	66	32	49.2	5.45	
Almaden *	72	28	48.8	5.92		Oakland (3) *				5.90	
Anaheim *	80	34	58.3	1.54		Orland *	68	30	48.9	1.63	
Anderson	67	26	46.2	5.93		Oroville	64	30	47.9	5.95	
Angel Island	67	31	48.3	4.07		Pajaro *	70	30	48.4	5.11	
Antioch *	68	35	48.0	2.97		Pasadena	77	29	51.2	2.83	
Aptos *	68	28	49.0	4.60		Paso Robles *	66	23	44.0	5.40	
Arcaata				14.78		Petaluma *	72	30	48.7	4.90	
Athlone *	76	34	50.2	1.19		Placerville *	69	25	43.2	6.60	
Auburn *	70	24	44.0	3.96		Pleasant *	79	35	52.0	2.70	
Bakersfield *	67	33	49.2	0.16		Red Bluff *	85	33	49.4	3.28	
Barstow †	77	23	47.6	0.15		Redding	68	30	46.2	6.76	
Beaumont	68	24	47.7	4.74		Rocklin *	70	35	49.3	3.01	
Belmont *	65	31	48.4	.....		Rumsey *	70	31	47.0	4.52	
Benicia Barracks	67	29	46.9	4.85		Sacramento (1) *	68	25	43.3	4.02	
Berendo *	68	30	49.1	0.73		Sacramento (2) *	64	34	48.4	2.95	
Berkeley	61	32	46.1	5.70		Salinas (1) *	69	32	46.7d	3.03	
Bishop Creek *	72	21	41.4	0.30		Salinas (2) *	69	30	46.2	2.74	
Boca	60	26	27.2	5.40		Salton	84	30	57.3	.....
Boulder Creek	70	26	46.0	10.62		Sanger Junction *	72	30	50.0	1.48	
Brentwood *	67	35	53.7	2.35		San Ardo *	70	27	46.7	3.59	
Brighton *	72	32	50.7	2.06		San Diego B'ks	78	39	54.7	2.11	
Byron *	63	30	49.7	2.35		San Gabriel *	81	34	51.8	1.77	
Cactus *	99	49	65.2	0.55		San Jose *	88	32	48.7	3.64	
Caliente *	70	33	48.2	1.15		San Mateo *	60	30	44.7	4.39	
Calistoga *	65	24	43.5	4.78		San Miguel *	67	28	46.7	3.13	
Castroville *	65	33	48.7	3.33		San Pedro *	77	38	54.9	1.56	
Centerville *	74	40	52.1	3.63		Santa Ana *	80	36	55.3	1.66	
Chico *	66	28	46.3	2.51		Santa Barbara (1) *	86	34	52.6	2.96	
Cisco *	40	10	29.9	14.90		Santa Barbara (2) *	69	40	52.4	3.38	
Colegrove				8.00		Santa Clara *	68	32	49.4	3.35	
Colfax *	68	24	42.3	1.15		Santa Cruz *	72	34	52.0	4.90	
Colton *	92	30	55.2	2.28		Santa Margarita *	63	23	38.6	7.72	
Corning *	78	28	49.1	3.69		Santa Maria *	70	30	51.4	3.64	
Davisville *	72	31	50.7	0.62		Santa Monica *	72	39	54.2	2.03	
Delano *	69	30	49.6	21.11		Santa Paula *	69	36	55.9	2.00	
Delta *	65	23	41.6	1.51		Santa Rosa *	66	28	48.9	4.74	
Downey *	82	40	57.2	3.62		Selma *	64	29	46.0	0.94	
Dunnigan *	68	33	47.4	5.67		Seven Palms *	87	42	60.2	6.70	
El Dorado *	72	29	47.0	5.67		Shingle Springs *	61	25	39.3	18.30	
Elmira *	72	32	51.5	.....		Sims *	57	12	34.7	9.33	
El Verno	66	28	47.0	9.80		Sisson *	47	2	34.7	9.33	
Emigrant Gap *	48	22	33.3	3.98		Soledad *	74	26	46.8	2.83	